

Field Data Collection and Management Using ArcGIS®

STUDENT EDITION

Copyright © 2021 Esri
All rights reserved.

Course version 7.0. Version release date January 2021.

Printed in the United States of America.

The information contained in this document is the exclusive property of Esri. This work is protected under United States copyright law and other international copyright treaties and conventions. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, except as expressly permitted in writing by Esri. All requests should be sent to Attention: Director, Contracts and Legal, Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

Export Notice: Use of these Materials is subject to U.S. export control laws and regulations including the U.S. Department of Commerce Export Administration Regulations (EAR). Diversion of these Materials contrary to U.S. law is prohibited.

The information contained in this document is subject to change without notice.

Commercial Training Course Agreement Terms: The Training Course and any software, documentation, course materials or data delivered with the Training Course is subject to the terms of the Master Agreement for Products and Services, which is available at <https://www.esri.com/~media/Files/Pdfs/legal/pdfs/ma-full/ma-full.pdf>. The license rights in the Master Agreement strictly govern Licensee's use, reproduction, or disclosure of the software, documentation, course materials and data. Training Course students may use the course materials for their personal use and may not copy or redistribute for any purpose. Contractor/Manufacturer is Esri, 380 New York Street, Redlands, CA 92373-8100, USA.

Esri Trademarks: Esri trademarks and product names mentioned herein are subject to the terms of use found at the following website: <https://www.esri.com/legal/copyright-trademarks.html>.

Other companies and products or services mentioned herein may be trademarks, service marks or registered marks of their respective mark owners.

Table of Contents

Esri resources for your organization

Course introduction

- Course introduction
- Course goals
- Installing the course data
- Training Services account credentials
- Icons used in this workbook

1 Preparing for ArcGIS field apps

- Lesson introduction
- Field activities overview
- Which apps support your field activities?
- The geoinformation model in ArcGIS
- Input data for ArcGIS field apps
- Controlling access with groups in ArcGIS Online
- Exercise 1: Create a group in ArcGIS Online
 - Sign in to an ArcGIS Online organization
 - Create a folder for field data
 - Create a feature management group
 - Explore the group page
 - Create a security group
 - Configure the security group
 - Create a maintenance group
 - Configure the maintenance group
- Lesson review
- Answers to Lesson 1 questions

2 Preparing feature layers for field apps

- Lesson introduction
- Decision factors for data capture field apps
- Field app deciding factors
- Choosing a data capture app
- Improving data collection efficiency in field apps
- Workflow to prepare data for publishing
- Exercise 2: Prepare a feature layer for publishing to field apps
 - Sign in to ArcGIS Pro
 - Create a project
 - Add the layers to the map

- Symbolize the layers
- Add a domain to the feature layer

Lesson review

Answers to Lesson 2 questions

3 Creating a web map for field apps

Lesson introduction

Publishing options for web maps for field apps

Publishing a web map for field apps with ArcGIS Pro

Exercise 3: Create a web map for ArcGIS Online

- Evaluate the map for publishing

- Specify the map metadata

- Specify the publishing options

- Publish the web map for field activities

- View the web map

Lesson review

Answers to Lesson 3 questions

4 Updating feature layers with ArcGIS Field Maps

Lesson introduction

ArcGIS Field Maps benefits

How the ArcGIS Field Maps interface uses domains

Exercise 4A: Update a feature layer with ArcGIS Field Maps (iOS)

- Open the ArcGIS Field Maps app

- Open the maintenance web map

- Locate the asset to update

- View the updated feature layer in ArcGIS Online

Exercise 4B: Update a feature layer with ArcGIS Field Maps (Android)

- Open the ArcGIS Field Maps app

- Open the maintenance web map

- Locate the asset to update

- View the updated feature layer in ArcGIS Online

How relationship classes are used in ArcGIS Field Maps

Workflow to update a feature layer

Exercise 4C: Maintain tables with ArcGIS Field Maps

- Add a GUID to a table

- Add a GlobalID to a feature layer

- Create the relationship class

- Overwrite the feature layer

- Prepare the smart form

- Create a smart form for the maintenance task

- Update the service record in ArcGIS Field Maps (iOS)

- Update the service record in ArcGIS Field Maps (Android)

- View the service record in a web map

- Lesson review

- Answers to Lesson 4 questions

5 Managing fieldwork with ArcGIS Workforce

- Lesson introduction

- ArcGIS Workforce benefits

- ArcGIS Workforce components

- ArcGIS Workforce roles

- Role capabilities in ArcGIS Workforce

- Assignments for your organization

- Exercise 5A: Create an ArcGIS Workforce project

- Create an ArcGIS Workforce project

- Add assignment types

- Add users and define roles

- Share the ArcGIS Workforce project

- Customize the dispatcher web map for the project

- Customize the workforce web map for the project

- Life cycle of an assignment in ArcGIS Workforce

- Exercise 5B: Use an ArcGIS Workforce project to manage an event

- Add the first assignment

- Create additional assignments

- View the list of assignments

- Change the status of an assignment on the mobile app

- Lesson review

- Answers to Lesson 5 questions

6 Creating smart forms with ArcGIS Survey123

- Lesson introduction

- ArcGIS Survey123 benefits

- Components of ArcGIS Survey123

- Workflow for ArcGIS Survey123 web app

- ArcGIS Survey123 component functions

- Creating smart surveys with XLSForms

- Exercise 6A: Create a new survey with ArcGIS Survey123 Connect

- Create a new survey

- Configure the XLSForm

- Add a question about the type of infraction

- Publish the survey

- View the contents of the new survey folder

- Share the survey

- Download the survey on your device
- Use the survey for an infraction
- Use the survey for a complaint
- View in a web map

Preparing to use a feature layer in a survey

Exercise 6B: Update an existing feature layer with ArcGIS Survey123

- Create a copy of the feature layer
- Prepare the feature layer for a survey
- Create a survey based on a feature layer
- Customize the survey appearance
- Publish the survey
- Share the survey
- Survey a new vendor
- View the updated vendor

Lesson review

Answers to Lesson 6 questions

7 Updating a feature layer with ArcGIS QuickCapture

Lesson introduction

ArcGIS QuickCapture benefits

Relevant real-time observations

How buttons are created in ArcGIS QuickCapture app

Preparing data for ArcGIS QuickCapture project

Exercise 7A: Create the data for an ArcGIS QuickCapture project

- Create a feature layer
- Add the field for observations
- Create a list of choices
- Symbolize the layer
- Share the layer

Configuration options for ArcGIS QuickCapture project

Exercise 7B: Capture observations at the faire

- Create an ArcGIS QuickCapture project
- Configure the button position
- Configure the button symbology
- Group the buttons
- Prepare to share your project
- Use the field app on your device
- View observations in a web map

Lesson review

Answers to Lesson 7 questions

8 Organizing your field activities with ArcGIS Dashboards

Lesson introduction

ArcGIS Dashboards benefits

ArcGIS Dashboards elements

Sources of data for ArcGIS Dashboards

Exercise 8A: Display field activity in ArcGIS Dashboards

- Create a dashboard in ArcGIS Dashboards

- Add a map element to the dashboard

- Add additional map elements

- Adjust the positioning of the map elements

- Add list elements to the dashboard

- Adjust the positioning of the list elements

Configuration settings for elements

Which configuration setting for which functionality?

Exercise 8B: Add interactivity to a dashboard in ArcGIS Dashboards

- Add a category selector for asset type

- Configure the list of assignments to highlight an assignment

- Add an indicator for a specific threshold

- Share the dashboard

- View the dashboard

- Challenge: Add another selector

Lesson review

Answers to Lesson 8 questions

Exercise 8B challenge solution

Appendices

Appendix A: Esri data license agreement

Appendix B: Answers to lesson review questions

Appendix C: Additional resources